

## AMENDMENTS TO SPECIFICATION

Please amend the first paragraph of page 2 as follows:

The present application is an improvement over applicant's prior applications, U.S. Patent Number 5,826,380; 5,901,514; 6,085,649 and 6,119,415, the subject matter of which is incorporated herein by reference. The present application is a Continuation-in-Part of co-pending application Serial No. 09/788,793 filed on 02-20-2001 and abandoned on December 16, 2003.

Please amend the paragraph beginning on Line 1 of Page 10 as follows:

U.S. Patent Number 6,101,779 issued on August 15, 2000 to Davenport teaches a pre-cast concrete slab having a multi-bayed construction. The concrete slab depicted here relies on a multitude of beams, purlins and ribs to form a supporting structure that are reinforced with deformed reinforcing bar steel (rebar). The concrete slab depicted here is formed by laying a multitude of steel channels in different directions to provide a trough for forming the concrete. Many ~~Styrofoam~~ Styrofoam®, also known as polystyrene, relating to polystyrene foam material for construction purposes, blocks are laid out between the steel channels to provide additional forming members for the concrete. In order to provide longitudinal support sufficient to hold the

concrete together and avoid cracking during transport, a considerable amount of steel rebar and wire mesh is laid out on top of the steel channels and ~~Styrofoam~~ relating to polystyrene foam material for construction purposes, forms. The method of constructing the pre-cast concrete slab depicted in Davenport uses an excessive amount of steel that is all placed by hand. This results in excessive material and labor costs. In fact, the concrete slab taught by Davenport is really the same steel support frame used in the manufactured building segment for the past 30 years but with concrete poured on the top. Furthermore, the steel bottom channels are exposed which makes the support frame susceptible to rust and corrosion.

Please amend the paragraph beginning on line 5 of Page 18 spanning Page 21 as follows:

To attain this, the present invention essentially comprises a pair of multi-stemmed pre-stressed concrete floor systems. Each pre-stressed concrete system has a generally rectangular configuration with a short front edge and parallel rear edge. Each multi-stemmed pre-stressed concrete floor system also has a pair of long parallel side edges between the front edge and rear edge. The multi-stemmed pre-stressed concrete floor systems are adapted to contact each other on one parallel side edge to form

peripheral edges and a central joining edge. A plurality of vertically disposed structural composite wall panels are provided. The wall composite panels are associated with the peripheral edges. The wall panels extend upwardly from both the front and rear edges and the side edges remote from the central joining edge when the two floor systems are adjacent to each other. In this manner a closed space is defined. The wall panels also have window openings and door openings. Next provided is a plurality of base connectors positioned at the lower edges of the wall panels. Note Figure 8. Each base connector has a first end with generally U-shaped flat faces receiving the wall panels adjacent to their lower edges. Each base connector also has a second end with components ~~fix-ably~~ fixably positioned with respect to a base slab. Four adjustable corner connectors are provided. Note Figure 7. The four corner connectors are coupled to adjacent vertical edges of the wall panels above the corners of the floor systems. Each corner connector is constructed of a fixed first component having U-shaped flat faces secured to the adjacent vertical edges of the wall panels. Each first component has a central cylindrical recess and an exterior arcuate first plate. Each corner connector also has an intermediate second component in a generally H-shaped configuration. The intermediate second component has interior cylinders rotatably received within the

cylindrical recesses and with arcuate second plates in sliding contact with the first plates. Bolts ~~fix-ably~~ fixably couple the arcuate plates at a predetermined angular orientation. Next provided are a pair of roof diaphragms constructed with composite building panels. Each roof diaphragm has a periphery there around. The roof diaphragms are intermediately angled with respect to each other to form a linear ridge at the top parallel with and above the central joining edge of the slabs when the two roof diaphragms are laterally aligned. An adjustable roof ridge connector is provided. Note Figure 3. The roof ridge connector is constructed of fixed first components having U-shaped flat faces secured to the adjacent edges of the roof diaphragms. Each first component has a central cylindrical recess and an exterior arcuate first plate. Each roof ridge connector also has an intermediate second component in a generally H-shaped configuration. The intermediate second component has interior cylinders rotatably received within a cylindrical recess. The intermediate second component also has arcuate second plates in sliding contact with the first plates. Bolts ~~fix-ably~~ fixably couple the arcuate plates at a predetermined angular orientation. Next provided is a pair of adjustable eave connectors. The eave connectors are positioned between the upper edges of the wall panels and the inside of the roof diaphragms. Each eave connector has a first component. The first component has a flat

face coupled to a roof panel with a central cylindrical component and an exterior first arcuate plate. Each eave connector also has a second component. The second component has a U-shaped flat face secured to the adjacent upper edge of the wall panels. The second component also has a central cylindrical recess and a second exterior arcuate plate in sliding contact with the first plate. Each adjustable eave connector has a bolt ~~fix-ably~~ fixably coupling the arcuate plates at a predetermined angular orientation. A pair of gable end walls constructed with composite material is provided. The gable end walls have a periphery there around. The gable end walls are intermediately angled with respect to each other to form a linear ridge at the top when the two gable end walls are aligned. Next are provided gable end connectors coupled between the gable end walls and the roof diaphragm. Note Figure 6. Each gable end connector is in a C-shaped configuration with oppositely extending apertured flanges running parallel with the C-shaped channels. Bolts pass through the roof diaphragms and flanges to fixably connect the roof diaphragm to the gable end connectors. Another bolt also extends through the C-shaped channel and the vertical gable end wall for fixable coupling there between. The panel system also includes a plurality of panels formed of elastomeric foam. Each panel is in a rectangular configuration. One side edge of each panel is in facing relationship with the other side edge of an

adjacent panel. Each panel has one side edge formed with two vertically extending small parallel recesses and one vertically extending large edge projection. Each panel has the other side edge formed with two vertically extending small parallel projections and one vertically extending large edge recess. Also provided is a first plate formed with two vertically extending small parallel projections within the recesses of the one side edge and one vertically extending large edge projection. The first plate has at least one spear-shaped projection. A second plate is provided. The second plate is formed with two vertically extending small parallel projections positioned over the projections of the other side edge and one vertically extending large edge recess within the edge recess of the other side edge. The second plate has at least one small spear-shaped projection. The large spear-like projection of each plate is in coupling relationship with the small spear-like projection of each adjacent plate.

Please amend the paragraph beginning on Line 3 of Page 25 as follows:

It is therefore a further object of the present invention to provide a new and improved manufactured building system that is ~~self-trailing~~ trailer-less transportation and does not need an

additional ~~Gurney~~ Gurney™ relating to carrying systems, bogey, flat bed trailer or any other supporting structure to transport the finished building.

Please amend paragraph beginning on Line 19 of Page 25 as follows:

It is therefore a further object of the invention to manufacture a concrete floor system that can be pulled by attaching a fifth wheel towing device directly to the concrete stem thereby eliminating the need to place wheels, dollies, ~~Gurney's~~ Gurneys™, relating to carrying systems, bogey's etc. on the front end.

Please amend the first paragraph of Page 29, beginning line 1 as follows:

Figure 14 is a cross-sectional view ~~of~~ taken along line 14-14 of Figure 12.

Please amend the paragraph beginning on line 25 of Page 32 spanning Page 33 as follows:

Next provided are a plurality of base connectors 34 positioned at the lower edges of the wall panels. Each base connector has a first end 36 with generally U-shaped flat faces

38 receiving the wall panels adjacent to their lower edges. Each base connector also has a second end 40 with components ~~fix-ably~~ fixably positioned with respect to a base slab.

Please amend the paragraph beginning on line 5 of page 33 as follows:

Four adjustable corner connectors 44 are provided. The four adjustable corner connectors are coupled to adjacent vertical edges of the wall panels above the corners of the floor systems. Each corner connector is constructed of a fixed first component 46 having U-shaped flat faces 48 secured to the adjacent vertical edges of the wall panels. Each first component has a central cylindrical recess 50 and an exterior arcuate first plate 52. Each corner connector also has an intermediate second component 54 in a generally H-shaped configuration. The intermediate second component has interior cylinders 56 rotatably received within the cylindrical recesses and with arcuate second plates 58 in sliding contact with the first plates. Bolts ~~fix-ably~~ fixably couple the arcuate plates at a predetermined angular orientation.

Please amend the paragraph beginning on Line 2 of Page 35 as follows:

Each gable end connector 97 is in a C-shaped configuration with oppositely extending apertured flanges 98 running parallel



with the C-shaped channels. Bolts 99 pass through the roof diaphragms and flanges to ~~fix-ably~~ fixably connect the roof diaphragms to the gable end connectors. Another bolt 99A also extends through the C-shaped channel and the vertical gable end wall for fixable coupling there between.

Please amend the paragraph beginning on Line 15 of Page 38 and spanning Page 39 as follows:

This inventor has solved these problems by inventing the Self-Mating Edge Adapter FIG 11. The ~~Self-Mating Edge Adapter (SMEA)~~ Self Mating Edge Adapter™, relating to edge coupling and herein referred to as SMEA, is manufactured from aluminum by the extrusion process. It is designed to fit around the male/female edge of composite building panels and is the same depth as the panel. The SMEA is assembled in two L-shaped halves that lock together and can be the same shape or different according to the edge design of the panels to which it is fitted. Each half of the SMEA is fitted around the longitudinal edge of two opposing panels and is permanently attached with mechanical or chemical fasteners. After the two halves of the SMEA are permanently attached to the edge of opposing panels, the edges to be joined are brought together and the SMEA snaps together with an integral snap fit design and becomes permanently locked. The two L-shaped halves form an integral rectangular or square extrusion

permanently positioned between and joining the two opposing composite building panels.

Please amend the paragraph beginning on Line 6 of Page 43 as follows:

The self-trailing multi-stemmed pre-stressed concrete floor system allows for trailer-less transportation. It is comprised of a generally rectangular shape with two long parallel sides and two short parallel ends. Such multi-stemmed floors constitute the floor of the finished building. The topside of the multi-stemmed floor is flat while the bottom side is comprised of a plurality of stems that extend downward and are evenly spaced. Each stem is pre-stressed with two half-inch steel strands running longitudinally from each short end. Each strand is stretched to 31,000 pounds of force and the force is transferred to the concrete stem via a load transfer device. A typical pre-stressed system having five stems, also known as a ~~"Quint-T slab"~~ (five stems) Quint-T™, relating to a concrete floor system having five stems, is therefore stressed with 310,000 pounds of force.

Please amend the paragraph beginning on Line 19 of Page 43 as follows:

Each long stem is supported on the ends with a reinforced diaphragm header beam, also referred to as a diaphragm header.

The diaphragm header is designed to transfer the live and dead loads exerted on the long stems to the end diaphragm. The end diaphragm transfers all of the longitudinal loads exerted on the stems, horizontally, to the foundation pads. The end diaphragm also holds the separate stems of a ~~Quint-T~~ Quint-T™, relating to a concrete floor system having five stems, self-trailing trailerlessly transported multi-stemmed floor together during transport down the highway.

Please amend paragraph beginning on Line 1 of Page 44 as follows:

The ~~Quint-T~~ Quint-T™, relating to a concrete floor system having five stems, floor slab with end diaphragm headers ~~enable~~ enables the concrete floor system of a manufactured building to be transported over the highway without the need to support the concrete floor slab by any other means such as a flat bed trailer, Gurney, bogey, railroad car or other means of carrying as would be required for a conventional, flat concrete slab or those depicted by Davenport and Eubanks. The new and innovative design of the ~~Quint-T~~ Quint-T™, relating to a concrete floor system having five stems, concrete slab comprised of longitudinal stems and diaphragm header creates a strong structure that will not crack or break during transport as would occur with conventional, flat concrete slabs.

Please amend the paragraph beginning on Line 12 of Page 44 as follows:

The ~~Quint-T~~ Quint-T™, relating to a concrete floor system having five stems, slab is easily transported by connecting 30 inch high lo-boy wheels attached to short axles and mounting plates which is then connected directly to the down turned concrete stems. The wheels are located between the two outermost stems and the two adjacent inner stems. The wheel assembly is easily attached and detached by inserting bolts that are passed through the steel mounting plates and the intermediate stems.

Please amend paragraph beginning on Line 25 of Page 46 as follows:

Lastly, a rectangular coupler 256 is provided. The coupler has an L-shaped base 258. The base has horizontally spaced holes 260 aligned with the holes of the supplemental projection. Bolts 262 are provided through the holes 260 for a releasable coupling. The coupler also has an apex 264 with a downwardly extending kingpin 266 for releasable coupling of the multi-stemmed floor to a vehicle to thereby facilitate transportation. This allows for trailer-less transportation.

Please amend the paragraph beginning on Line 9 of page 48 as follows:

Next provided is a plurality of rear rigid metallic suspension shackle mounting plates 304. Each of the shackle mounting plates has a squared U-shaped configuration, with each plate receiving and snugly fitting the downwardly projecting stem of the multi-stemmed floor. Each of the plates has a bolt hole 306 there through. The bolt hole is ~~align-able~~ alignable with the suspension shackle mounting bolt holes of the stems, that are adjacent to the rear edge and side edge of the multi-stemmed floor.

Please amend the paragraph beginning on Line 1 of Page 49 as follows:

Next provided is a fifth wheel subassembly having a hitching portion 320 for releasable attachment to a tractor hitch and an attachment portion for coupling with a multi-stemmed floor. The attachment portion has a plurality of rearward extending carrier beams 322. Each carrier beam has a plurality of forward rigid metallic suspension shackle mounting plates 324 with each plate having a squared U-shaped configuration. Each plate is received and snugly fitted to the downwardly projecting stem of the multi-stemmed floor. Each of the plates has a bolt hole 306 there through ~~306~~ with the bolt hole being align able with the fifth

wheel coupling bolt holes of the front inner stems of the multi-stemmed floor. The bolting of the subassembly to the multi-stemmed floor allows the fifth wheel subassembly to be removably coupled to the multi-stemmed floor to allow the multi-stemmed floor to be transported with a minimal road clearance sufficient to be used on all roadways without restriction.

Please amend the paragraph beginning on Line 1 of Page 50 as follows:

First provided are a multi-stemmed floor form table 330 having an open front face 332 and an open rear face 334 and two parallel side surfaces and a bottom surface and a long axis 340. The bottom surface of the form table has a plurality of downward projecting troughs 336, therein. The troughs run the length of the table and extend to the front and rear faces. There is a front trough meeting the front face and a rear trough meeting the rear face of the form table. The front and rear troughs are each oriented perpendicular to the longitudinal troughs, at the front and rear of the multi-stemmed floor form table. The front trough and rear trough of the multi-stemmed floor form the front and rear diaphragm headers of the finished multi-stemmed floor. The downward projecting troughs are the molding walls for the formation of the downward projections of a multi-stemmed floor, also known as stems and diaphragm headers. The front and rear

faces each allow the passage of a plurality of pairs of stressing cables there through.

Please amend the paragraph beginning on Line 25 of Page 51 spanning Page 52 as follows:

Next provided is a pair of removable stressing heads 350 with each stressing head having a plurality of rail wheels being mated with and received by the trolley rails. Each removable stressing head has a recessed front surface 352 which joins with the front and rear faces of the form table. The joining of the stressing head and the form table makes a containment surface for the poured concrete into the form table. Each removable stressing head has two parallel short end surfaces and a flat rear end surface 354, a top surface and a bottom surface. Each stressing head has an associated stressing block 360 coupled thereto. The stressing block has a first weight constructed with 2" thick steel plate with the side edges oriented in a parallel direction to the stressing strands also defined as the "primary beam". The 2" thick steel plate is turned in the strong direction to the force exerted on the form by the stressing strands and spans the entire width of the form. The stressing block has a second weight constructed of 2" thick steel plate with the flat face surface turned perpendicular to the stressing strands also defined as the "chuck-bearing block". The stressing

block assembly carries the entire force exerted by the stressing strands. Hence the term "self-stressing form" is used to describe this assembly. The chuck-bearing block has a plurality of pairs of stressing cable apertures 362 there through for receiving and containing a stressing cable. Each stressing head also has a plurality of stressing cable lock-downs 364, also known as chucks. The chucks are ~~couple-able~~ coupleable to the stressing cable via an internal clamping device. Stretching the strand approximately 8" more than its un-tensioned length with 31,000 lbs of force tensions the stressing strand. The chucks clamp to the stressing strand passed through the chuck-bearing block and hold the pre-stressed strand in place by contacting the ~~flat face surface~~ flat surface on the chuck-bearing block. The lock-downs, or chucks, couple with the cable and prevent the removal of the stressing cable from within the cable apertures. Each removable stressing head is coupled to a pair of trolley rails. The removable stressing head can be rolled to an open position, which is away from the form table, and the removable stressing head can be rolled to a closed position, in which it is coupled to the form table by the force exerted on the stressing head by the pre-stressed strands.



Please amend paragraph beginning on Line 1 of Page 53 as follows:

When the strands are fully stressed, thereby holding the removable stressing head in place, the stressing head is in the closed position and forms the diaphragm header. The stressing strands or cables are located near the bottom edge of the longitudinal down turned stems and pass through the diaphragm header trough and stressing block. The concrete can be poured into the ~~self-stressing~~ self-stressing form to encapsulate the strands and is allowed to cure to a desired strength in excess of 5,000 psi. After the concrete has cured the stressing strands are cut at a location outside the diaphragm header-forming trough but to the inside of the stressing block. This transfers the entire force of the pre-stressed cables or strands from the self-stressing form to the fully cured multi-stemmed concrete floor system. If a simple table, absent the stressing head configuration would be used, there would be a problem at the step in the process. The multi-stemmed floor would not be able to be removed from the form due to the approximately 6" of strand left protruding through the flat rear surface 354 of the diaphragm header forming trough. The inventor has solved this problem by inventing the removable stressing head mounted on trolley wheels and rails. By rolling the stressing head to the open position the protruding ends of the stressing cables will clear the

stressing block and the multi-stemmed concrete floor can be removed.

Please amend the paragraph beginning on Line 1 of Page 55 as follows:

The compressible filler is manufactured and assembled with an open cell foam core of less than an eight-pound per cubic foot density. The light density is necessary to allow the foam to compress with a minimal resistance to the concrete diaphragm header. The foam core is covered with a thin layer of aluminum or steel sheet metal 414 on the concrete side. The compressible filler is tapered from the top 416 to the bottom 418 with the narrow edge at the top and the wide edge at the bottom. This creates a hinge effect that allows the filler to compress more at the bottom where the greatest shrinkage or compression of the multi-stemmed concrete floor occurs. The sheet metal protects the compressible filler from the concrete and thereby ~~enable~~ enables the filler to be re-used for multiple castings and to form a smooth inner surface for the reinforced diaphragm header.